521,258

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
29 January 2004 (29.01.2004)

PCT

(10) International Publication Number
WO 2004/010688 A1

(51) International Patent Classification[7]: H04N 5/225

(21) International Application Number: PCT/IB2003/003234

(22) International Filing Date: 15 July 2003 (15.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
02077930.2 18 July 2002 (18.07.2002) EP

(71) Applicant *(for all designated States except US)*: KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: VAN GEMERT, Leonardus, A., E. [NL/NL]; c/o Prof . Holstlaan 6, NL-5656 AA Eindhoven (NL).

(74) Agent: DUIJVESTIJN, Adrianus, J.; Philips Intellectual Property & Standards, Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

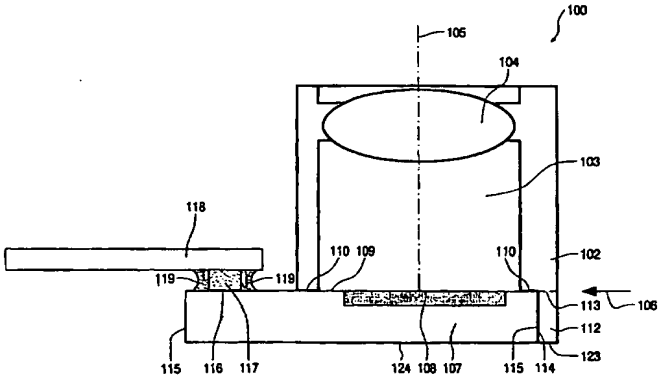
(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG,*

[Continued on next page]

(54) Title: CAMERA MODULE, HOLDER FOR USE IN A CAMERA MODULE, CAMERA SYSTEM AND METHOD OF MANUFACTURING A CAMERA MODULE



(57) Abstract: The invention relates to a camera module (100). The camera module (100) comprises a holder (102), which is provided with a light-conducting channel (103). Present in said light-conducting channel (103) is a lens (104) having an optical axis (105). Disposed near an end (106) of the light-conducting channel (103) is a solid-state image sensor (107). The image sensor (107) is provided with an image pick-up section (108) that is oriented perpendicularly to the optical axis (105), and aligning means (112) forming part of the holder (102) are present near the end (106) of the light-conducting channel (121) for aligning the image pick-up section (108) with respect to the optical axis (106). In one embodiment of the camera module (100), the holder (102) is substantially rectangular in shape, seen in cross-sectional view in a direction perpendicular to the optical axis (105). The aligning means are formed by an extension (112) of the light-conducting channel (103), which is present near the end of the light-conducting channel (103) and which is provided with an inner surface (114). The lateral surfaces (115) of the solid-state image sensor (107) are placed in abutment with the inner surface (114) substantially without play. This manner of aligning the image pick-up section (108) with respect to the optical axis (105) simplifies the manufacture of the camera module (100).

WO 2004/010688 A1